Vanda coerulescens Griffith

SYNONYMS: Vanda coerulescens var. lowiana Rchb. f., Vanda coerulescens var. hennisiana Schlechter. Earlier writers included Aerides orthocentrum Handel-Mazzetti as a synonym, but the Kew Data Base (2007) has this name listed as a separate and valid speceies.

ORIGIN/HABITAT: Northeast India, Burma, northern Thailand, and southwest China. In Burma, Vanda coerulescens has been found north of Rangoon near Pegu and on the hills near Prome at 1500 ft. (460 m). In Thailand, collections have been made on Doi Suthep, south of Denchai, near Mae Hong Song, and near Pang Mapha at (800 m). In China, this orchid is found in tropical southern and southwest Yunnan Province where it grows as an epiphyte on trees at 3600-4900 ft. (1100-1500 m).

CLIMATE: Station #48096, Rangoon, Burma, Lat. 16.9N, Long. 96.1E, at 109 ft. (33 m). Temperatures are calculated for an elevation of 1500 ft. (460 m), resulting in probable extremes of 104F (40C) and 45F (7C).

N/HEMISPHERE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F AVG MAX	84	88	92	93	88	81	80	80	81	82	84	82
F AVG MIN	59	60	64	70	72	71	70	70	70	70	67	60
DIURNAL RANGE	25	28	28	23	16	10	10	10	11	12	17	22
RAIN/INCHES	0.8	0.2	0.2	1.2	8.1	19.6	25.0	17.6	18.6	4.5	0.5	0.5
HUMIDITY/%	67	61	64	66	78	88	90	90	90	85	77	71
BLOOM SEASON	*		**	***	***	*	*					*
DAYS CLR @ 6AM	13	10	8	11	2	0	0	0	0	1	7	13
DAYS CLR @ 12PM	17	18	21	14	1	0	0	0	0	1	5	11
RAIN/MM	20	5	5	30	206	498	635	447	472	114	13	13
C AVG MAX	29.1	31.1	33.3	33.9	31.1	27.2	26.7	26.7	27.2	27.8	28.9	27.8
C AVG MIN	15.2	15.6	17.8	21.1	22.2	21.7	21.1	21.1	21.1	21.1	19.4	15.6
DIURNAL RANGE	13.9	15.5	15.5	12.8	8.9	5.5	5.6	5.6	6.1	6.7	9.5	12.2
S/HEMISPHERE	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

CLIMATE: Station #56959, Jinghong, China, Lat. 21.9N, Lat. 100.8E, at 1752 ft. (534 m). Temperatures are calculated for an elevation of 4900 ft. (1500 m), resulting in probable extremes of 94F (34C) and 27F (-3C).

N/HEMISPHERE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F AVG MAX	66	69	80	85	83	77	77	78	79	73	72	67
F AVG MIN	41	41	45	52	59	63	62	61	61	57	50	43
DIURNAL RANGE	25	28	35	33	24	14	15	17	18	16	22	24
RAIN/INCHES	0.2	1.0	0.3	2.5	8.1	6.4	11.1	13.4	6.5	2.9	2.5	1.6
HUMIDITY/%	85	83	69	65	72	83	85	86	85	88	87	87
BLOOM SEASON	*		**	***	***	*	*					*
DAYS CLR @ 7AM	1	6	12	10	9	1	0	0	0	0	0	0
DAYS CLR @ 1PM	13	16	20	16	8	2	1	3	6	4	16	17
RAIN/MM	5	25	8	64	206	163	282	340	165	74	64	41
C AVG MAX	18.7	20.6	26.7	29.4	28.3	25.0	25.0	25.6	26.1	22.8	22.2	19.4
C AVG MIN	4.8	5.0	7.2	11.1	15.0	17.2	16.7	16.1	16.1	13.9	10.0	6.1
DIURNAL RANGE	13.9	15.6	19.5	18.3	13.3	7.8	8.3	9.5	10.0	8.9	12.2	13.3
S/HEMISPHERE	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

CLIMATE: Station #48300, Mae Hong Son, Thailand, Lat 19.3N, Long. 97.9E, at 711 ft. (217 m). Temperatures are calculated for an elevation of 2600 ft. (800 m), resulting in probable extremes of 102F (39C) and 37F (3C).

N/HEMISPHERE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F AVG MAX	80	84	91	92	89	83	81	81	82	84	82	79
F AVG MIN	51	51	56	66	70	69	68	68	68	66	62	53
DIURNAL RANGE	29	33	35	26	19	14	13	13	14	18	20	26
RAIN/INCHES	0.4	0.2	0.3	1.7	6.1	7.1	9.6	9.9	8.1	3.9	1.2	0.4
HUMIDITY/%	67	60	50	50	68	81	82	83	83	82	75	71
BLOOM SEASON	*		**	***	***	*	*					*
DAYS CLR @ 7AM	2	8	10	9	3	0	0	0	0	1	1	2
DAYS CLR @ 1PM	20	20	20	13	3	0	0	0	0	3	13	17
RAIN/MM	10	5	8	43	155	180	244	251	206	99	30	10
C AVG MAX	26.5	28.9	32.8	33.3	31.7	28.3	27.2	27.2	27.8	28.9	27.8	26.1
C AVG MIN	10.4	10.6	13.3	18.9	21.1	20.6	20.0	20.0	20.0	18.9	16.7	11.7
DIURNAL RANGE	16.1	18.3	19.5	14.4	10.6	7.7	7.2	7.2	7.8	10.0	11.1	14.4
S/HEMISPHERE	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

Cultural Recommendations:

LIGHT: 3500-4500 fc. Growers report that plants grow well in almost full sunlight. In the habitat, however, heavy summer cloud cover dramatically reduces light. This suggests that some shading is appropriate for cultivated plants at mid day in summer. Strong air movement is recommended at all times. Long, deep green leaves indicate light levels are too low. Short, pale, yellow-green leaves that do not spread fully open indicate light levels are too high.

TEMPERATURES: Summer days in the Thailand habitat average 81-83F (27-28C), and nights average 68-69F (20-21C), with a diurnal range of 13-14F (7-8C). The warmest days occur in spring during the clear weather at the end of the dry season. Spring days average 89-92F (32-33C), and nights warm from 56F (13C) at the start of spring to 70F (21C) at the end of the season, and the diurnal range decreases from 35F (20C) early in the season to 19F (11C) at its end. These are the average conditions under which this species should be grown. Conditions in the habitat in Burma and China are slightly cooler in the summer months.

HUMIDITY: 80-85% in summer and early autumn, dropping rapidly in early winter to 50-60% which lasts until late winter or early spring. Humidity in all three regions is approximately the same throughout the year.

WATER: Rainfall in the habitat in Thailand is heavy from late spring to early autumn. Averages then decrease fairly rapidly until they are very low in winter and early spring. During the early part of the dry season humidity is high enough so that additional moisture usually is available from dew and late-night mist. But for a month or so in late winter and early spring, conditions are so dry that even this moisture is seldom available. Rainfall patterns in habitats in both Burma and China are approximately the same as indicated in the preceding climate table, with minor variations in the length of the winter dry season and monthly average rainfall during the summer monsoon. These variations have negligible horticultural importance, however. Cultivated plants should be watered heavily while actively growing, but they need much less water starting in late autumn after the new growth matures.

FERTILIZER: 1/4-1/2 recommended strength, applied weekly when plants are actively growing. Many growers use a high-nitrogen fertilizer from spring to midsummer, then switch to one high in phosphates in late summer and autumn.

REST PERIOD: Winter days average 79-84F (26-29C), and nights average 51-53F (10-12C), with a diurnal range of 26-33F (14-18C). Winter temperatures in Burma during winter average 8-10F (4-6C) warmer than indicated in the preceding climate table, while those in the Chinese habitat are up to 10F (6C) cooler. Therefore, these plants should be expected to adapt to a wide range of winter temperatures. Rainfall is low in winter, but additional moisture from heavy dew and mist is usually available for most of the dry season. For 1-2 months in late winter or early spring, however, conditions are so dry that even moisture from dew may be uncommon. Cultivated plants need less water in winter, but they should not be dry for long periods. Water should probably be reduced even further for a month or so in early spring, however, with only a light misting given if plants show signs of stress. Fertilizer should be reduced or eliminated until new growth starts in spring and heavier watering is resumed. As skies in the habitat are clear during the winter dry season, as much light as possible, short of burning the foliage, should be provided for cultivated plants during winter.

GROWING MEDIA: Plants are usually grown in hanging pots or slatted wooden baskets filled with a very open, fast draining medium. Some are grown with only enough open chunky medium, such as charcoal, wine corks, or large cork chips, to anchor the plant until it becomes established. The roots should grow and hang down as far as they choose and should not be trimmed to make things look neat. Growers indicate that anything more than minimum root trimming can set the plant back 2-3 years. Good air movement around the roots at all times seems to be very important.

MISCELLANEOUS NOTES: The bloom season shown in the climate table is based on cultivation records.

Plant and Flower Information:

PLANT SIZE AND TYPE: A compact, up to 6 in. (15 cm) monopodial epiphyte.

STEM: Up to 6 in. (15 cm) long. The short, rather slender stem is completely enclosed by distichous, overlapping, longitudinally folded sheaths located at the base of each leaf.

LEAVES: Up to 10 in. (25 cm) long by 0.8 in. (2 cm) wide. Only a few leaves are carried on each stem. They are linear, bilobed at the apex with the lobes ending in spiny tips, and longitudinally folded along the midvein, resulting in a channeled top surface and strongly keeled lower side.

INFLORESCENCE: Up to 24 in. (60 cm) long. The slender, erect or suberect flower spikes emerge at the base of the leaves. Several inflorescences may be produced at the same time by each stem. Each flower is carried on a slender pedicellate ovary that is whitish in color, 1.5-2.0 in. (3.8-5.0 cm) long, and usually rather stiffly spreading.

FLOWERS: 12-20 per inflorescence. The spreading, fragrant blossoms are variable in color, up to 1.5 in. (3.8 cm) across, and rather light in texture but relatively long-lasting. The sepals and petals usually are pale blue or lilac-blue but may occasionally be white. The lip has a dark violet-blue midlobe, a blue spur at the base, and light purple lateral lobes. The column is light blue, and the anther is yellow. The spreading sepals and petals are about 0.6 in. (1.5 cm) long by 0.2 in. (0.6 cm) wide. They are egg- to spoon-shaped with narrow bases and broadly rounded tips, and the petals usually slightly twisted at the base. The 3-lobed lip is 0.5-0.6 in. (1.2-1.5 cm) long by 0.3 in. (0.7 cm) wide with small, oblong lateral lobes and an egg-shaped midlobe that has reflexed margins, is notched in the center of the broad, blunt apical margin, and has a pair of thickened ridges on the disc. The short, incurved spur at the base of the lip is about 0.3 in. (0.7 cm) long. The column is short and stout.

HYBRIDIZING NOTES: Chromosome count is 2n = 38.

REFERENCES: These cultural notes are written by Charles and Margaret Baker
ORCHID SPECIES CULTURE http://www.orchidculture.com/

Notulae ad Plantas Asiaticas 3: 352, pl. 331. 1851. Oesterreichische Botanische Zeitschrift 87: 132. 1938.

Bechtel, H., P. Cribb, and E. Launert. 1980. Manual of cultivated orchid species. MIT Press, Cambridge, Mass.

Cheng, S. & C. Z. Tang. 1988. A revision of the genus Vanda (Orchidaceae) of China. Orchid Digest 52(1): 39-45.

Grant, B. [1895] 1966. Orchids of Burma and the Andaman Islands. Hanthawaddy Press, Rangoon, Burma. Reprint, Twin Oaks Books, Greenfield, Wis.

Grove, David L. 1995. Vandas and Ascocendas and Their Combinations with Other Genra. Timber Press, Portland, OR.

Hamilton, R. 1988. When does it flower? 2nd ed. Robert M. Hamilton, 9211 Beckwith Road, Richmond, B. C., Canada V6X 1V7.

Hawkes, A. (1965) 1987. Encyclopaedia of cultivated orchids. Faber and Faber, London.

Kamemoto, H., and R. Sagarik. 1975. Beautiful Thai orchid species. Orchid Society of Thailand, Aksornsampan Press, Bangkok, Thailand.

Kew Data Base. 2007. http.//www.kew.org.wcsp/home.do

Pridgeon, A. ed. 1992. The illustrated encyclopedia of orchids. Timber Press, Portland, OR.

Seidenfaden, G. 1988. Orchid genera in Thailand?14. Fifty-nine vandoid genera. Opera Botanica 95, Copenhagen, Denmark.

Tropicos W3, Missouri Botanical Garden, Nomenclatural Data Base, March 8, 1998 at http: //mobot.mobot.org/cgi-bin/search_pick.

Yang Zenghong, Zhang Qitai, Feng Zhizhou, Lang Kaiyong, and Li Heng. 1993. Orchids. China Esperanto Press, P. O. Box 77, Beijing, China.